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ABSTRACT

The brief therapy approach to counseling was born in the post-World War II cybernetics movement. The shift from a problem focus to a solution focus altered the way in which counselors approached helping clients out of their inflexible cognitive representations. Alongside this evolution in psychotherapy were the growth of research in artificial intelligence and the early success of expert system programs. Because the resolution counseling approach is systematic, it lends itself to the enterprise of creating an expert system that could serve as a coach or assistant for novice counselors. In attempting to make each counseling step in a first session practice enough to fit the if-then rules of an expert computer system, this chapter's authors made resolution counseling more explicit and, therefore, more understandable. As a result of this project, this chapter's authors learned that it was possible to represent brief counseling in a computer for training purposes and that, in doing so, they arrived at a much fuller understanding and a more efficient practice of resolution counseling. This chapter recommends that counselors who are interested in having greater access to what they are actually doing moment to moment in a counseling session obtain a piece of expert system software and work with a colleague who can serve as a knowledge engineer. Through the knowledge elicitation process, the counselor could make explicit his or her own expertise. The expert system used in this chapter was EXSYS Professional by Multilogic, Inc. (Contains 15 references.) (MKA)

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Getting Counselor Expertise Into a Computer: A Cyberassistant for Students of Brief Counseling

JACK PRESBURY AND JOE MARCHAL

In 1948, Norbert Wiener coined the term *cybernetics* (from the Greek, meaning steersman) and helped launch the computer revolution. Early on, Wiener voiced misgivings about the computer and its social impact (Roszak, 1986). One concern was that computers could move into the workplace and put people out of jobs. Later, in 1956, the Artificial Intelligence project was launched at Dartmouth, and people worried that automating cognitive processes could reduce human interaction to sterile ones and zeros. Similarly, most counselors have been reluctant to imagine that the intimate process happening between counselor and client could ever be replicated in computer software. After all, because counseling is to some extent performed intuitively, and based on knowledge that is largely implicit, how could we ever teach a machine to do it? This concern is called the knowledge elicitation "bottleneck" problem in artificial intelligence research: in order to put expertise into the computer, the expert—in this case the counselor—has to make explicit what he or she knows, and how he or she actually does counseling. This chapter concerns an attempt to get counseling knowledge into artificial intelligence software known as an expert system in order to train novice counselors.

It turns out that programming expert computer systems is a two-way process. Not only can machines be taught to act as if they were experts in certain domains, but the attempt to do so also helps the

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experts gain more understanding of their own knowledge and procedures. This chapter's authors offer two assertions based on their experience with expert systems: First, it appears possible to develop machine-based assistants that will help novice counselors perfect their knowledge and skills in brief counseling. Second, attempting to make the counseling process explicit enough to be programmed into the computer teaches "expert" counselors more about what they actually do in a brief counseling session.

This chapter first describes the evolution from cause to resolution counseling, the algorithms for solution-focused therapy, and the evolution from general problem solvers to knowledge-based systems in artificial intelligence. The chapter then discusses expert system feasibility and expert system design and implementation, and provides an example of an expert system design for resolution counseling.

THE EVOLUTION FROM CAUSE TO RESOLUTION IN COUNSELING

Early counseling theorists, steeped in the mechanistic/deterministic tradition, were interested in what caused people's difficulties. This implicit stance has been a driving force behind many approaches to counseling (Prochaska & Norcross, 1999). However, "precious little evidence exists to support the belief that constructing causes leads to better solutions" (p. 440).

After World War II, Gregory Bateson, an anthropologist, set up a research program in Palo Alto, California, based on the notion of cybernetics, that is, on how feedback influences behavior. Bateson's followers took his basic principles and elaborated them into what became the Brief approach to therapy. They also borrowed from Milton Erickson, a psychiatrist who had developed a "common sense" approach to psychotherapy that baffled and intrigued many researchers and psychotherapists. In 1966, Richard Fisch, who had been a member of Bateson's research team, proposed the establishment of a project to study the change process in counseling and psychotherapy. For want of a better term, the research group referred to its model as brief therapy (Watzlawick, Weakland, & Fisch, 1974), and the institute they established became known as the Brief Therapy Center (BTC). The term *brief* caught on and

came to be regarded by many as the primary emphasis of the work, but the name was unsatisfactory "because 'brief' therapy often refers to some sort of stopgap, superficial, or first-aid measures undertaken provisionally until 'real' long-term therapy becomes possible" (p. xiv). Then in 1974, Watzlawick, Weakland, and Fisch published *Change: Principles of Problem Formulation and Problem Resolution*. In that volume, they offered a model for brief therapy based upon their view of how specific types of communication can be employed to interrupt problem patterns. Rather than search for causes of dysfunctional communication patterns, the BTC group thought it more productive to understand what might be maintaining the problem. This focus was due to the belief that the clients' attempted solutions to the stated problem had become part of the problem itself, and thus their interruption is at the heart of the work (Fisch & Schlanger, 1999):

> Problems, however they may have started, *persist* because of the persistent tack the complainant [client] has been taking in his or her efforts to resolve the complaint; we call this tack the *attempted solution*. . . . Thus the thrust of the therapy is not to get the complainants to *do* something so much as to *stop* what they have been doing about the problem. (p. 2, emphasis in original)

While living in the Palo Alto area, Steve de Shazer became a close friend of John Weakland and was influenced by the therapy approach of the BTC group. De Shazer later went on to establish the Brief Family Therapy Center (BFTC) in Milwaukee, Wisconsin. Although originally attracted to the idea that clients' problems were their attempted solutions, and that the focus of the therapy was to disrupt whatever maintains a problem, de Shazer later decided to bypass the problem identification phase and to focus instead on solutions. This proved to be a profound change in the method of working with clients briefly. Prior to this change, de Shazer was "essentially problem-focused and defined brief family therapy as an attempt to help people change their *frames*" (Bloom, 1997). It was not until around 1985 that the solution-focused model was first enunciated by de Shazer, with its emphasis on solutions rather than problems. In rejecting the first premise of the BTC approach—that the problem must be understood in order

to be disrupted—de Shazer stated that one does not have to know very much about a problem in order to solve it (de Shazer, 1991). Although the solution-focused approach rejected the emphasis on problems, it implicitly maintained the notion that people who have psychological difficulties do indeed have problems that require solutions.

But a funny thing happened on the way to problem solution. While conducting research on the solution-focused task assignments that seemed to work best with clients, the Milwaukee group discovered that successful solutions seemed often to be unrelated to the problems that clients brought to be solved.

> In 1982 at BFTC an anomaly began to develop. We had the first in a series of cases in which the task given to the client was apparently not related to the problem presented, and yet the task proved useful in helping the client solve the problem . . . we lost the connection between the problem-to-be-solved and the process of developing a solution. (Gingerich & de Shazer, 1991, p. 242)

Still, the search for solutions implies that people who come for counseling do have a problem and that the counselor must help the client find an answer—meaning the solution—to the problem. Presbury, Echterling, and McKee (1999) proposed that because no logical connection exists between the "problem-to-be-solved" and the interventions which are helpful to clients, the term *resolution* is preferable to *solution*. Resolution connotes the arrival of a new realization or the formation of a new gestalt, once the old worldview has been perturbed or deconstructed. People who become resolute are no longer in a state of indecision or uncertainty. They have reached a new closure. Their former way of seeing the world has been changed in favor of a new and more useful way of viewing. As a result, they are more confident and hopeful, and are more focused on future goals rather than past and present concerns. No problems have been solved. No solutions have been found. Although it may seem that clients are solving problems, the real action is happening in the way clients change the meaning of their cognitions and emotions.

> We prefer to think of client "problems" . . . as their "stuck" or rigidified representation of experience that is in need of change. We hope to "resolve" such stuckness by deconstructing the representations, so that the person seeks a new "resolution." As a result, the client becomes a newly "resolute" person, with his or her mind made up in a more useful way. (Presbury, Echterling, & McKee, 1999, p. 21)

The model being considered in this chapter is resolution counseling, primarily based on de Shazer's solution-focused approach (1984) and White and Epston's narrative therapy (1990), but with the emphasis being the deconstruction of clients' rigid categories of experience, and the influencing of more flexible cognitive representations. Having been born in the cybernetics movement, most brief counseling lends itself to logical analysis and the development of algorithms for implementation in expert systems technology.

ALGORITHMS FOR SOLUTION-FOCUSED THERAPY

Early in the development of the solution-focused approach, Molnar and de Shazer (1987) began to develop an algorithm, that is, a formulated procedure for working through the steps of a counseling session. One path of their algorithm was as follows:

> Attempt to identify [a] solution or complaint statement that includes a goal . . . Attempt to identify exceptions . . . . if successful, then: . . Attempt to identify [a] difference between problem rule and exception rule. . . . if successful, then: . . . . Choose [an] intervention: Client is asked to do more of the behaviors which are satisfactory and different from the problem behavior . . . if unsuccessful, then: . . . Choose among interventions . . . [and so on]. (pp. 354-355)

This attempt to identify the if-then rules for proceeding with clients based on their responses to the counselor is the earliest endeavor of its kind of which the authors of this chapter are aware. The search for a goal statement and the naming of exceptions to the problem remain a crucial part of the solution-focused therapeutic approach to this day.

Later, Gingerich and de Shazer (1989, 1991) began to design a computer-based expert system that could advise counselors on "selecting, designing, and developing an intervention at the end of the first therapy session" (1991, p. 241). Two computer applications were designed. Called BRIEFER I and BRIEFER II, these systems were meant not only to aid counselors but also to refine the thinking of the designers as to exactly what it is that successful counselors do.

> Specifically, our interest was twofold: (a) to model clinical decision making, particularly the intervention design process, and (b) to assist us in theory construction. A tertiary purpose, inherent in the concept of expert systems, was to assess whether it was feasible to use an expert system to provide increased access to scarce expertise. We wish to make it clear at the outset that we do not wish to replace therapists with computers. . . . However, we believe computers may be able to assist therapists in important ways as they develop and carry out therapeutic interventions. (p. 241)

The expert system BRIEFER I was designed to function as a consultant behind a one-way mirror might. However, it gave too much information and was not as precise as the programmers had hoped. BRIEFER II was refined so that it could offer a single suggestion to the practitioner based on what the client did or said. These suggestions were generally about what sort of end-of-session task to assign the client. If, for example, the situation with the client seemed "vague" to the counselor, the recommendation was to give the "formula first session task," which is ". . . between now and the next time we meet, notice something that is happening that you would like to continue happening." The expert system asked if an exception was to be named, and if not, then the suggestion was to "pretend a miracle has happened."

A review of the literature did not reveal subsequent articles on the BRIEFER project. Nor was a published computer application of that name found. Gingerich and de Shazer reported that attempting to develop such a piece of software was helpful in disciplining their observations of what went on in the counseling session. Perhaps that was sufficient, and going beyond that achieve-

ment might have seemed redundant. This chapter's authors work with such an expert system has shown that attempting to create a comprehensive computer program is indeed a daunting task and, in fact, may not be necessary. For example, when *knowledge engineers* (the term for computer scientists who create expert system applications for industry) contract for the design of a project, they find that there is a "good enough" level of development beyond which the expense of continuing is not justified. All possibilities are not taken into consideration because the branching of a decision tree increases in a geometric fashion. The expert system assistant described in this chapter is designed to coach novice counselors along a successful path in order to familiarize them with the concepts and techniques of resolution counseling. This chapter's authors have found it both unwieldy and unnecessary to attempt to build a system that anticipates every move that a client could make in a session. This attitude is consonant with the brief therapy admonition (which seems right out of Lewis Carroll) to know when to quit: "Keep going till you're through, then stop."

THE EVOLUTION FROM GENERAL PROBLEM SOLVERS TO KNOWLEDGE-BASED SYSTEMS IN ARTIFICIAL INTELLIGENCE

Molnar and de Shazer's (1987) stated reasons for applying expert system technology to brief therapy—to model decision making, assist in theory construction, and increase access to scarce expertise—are classic examples of reasons that motivate the application of intelligent systems technology. This chapter's authors are also motivated by these and by one additional consideration, namely, to provide training and instructional materials for brief therapy.

Interest in intelligent systems and, in particular, intelligent human systems began with the ancient Greeks. But it is only recently, with the advent of modern computers, that appropriate technology and knowledge have been available actually to build intelligent systems. When the term *artificial intelligence* (AI) was coined at the 1956 Dartmouth conference, two AI research programs were initiated. One program took symbolic reasoning as the paradigm of intelligent behavior and focused on modeling examples of human reasoning. Classical logic set the standards for good reasoning and

informed the construction of intelligent systems modeled on the human mind. The second program, connectionism and the development of artificial neural networks, took learning as the paradigm of intelligent behavior. Examples of learning, such as character or facial recognition, informed the construction of intelligent systems modeled on the human brain.

Expert systems technology has evolved from the program that took symbolic reasoning as the model of intelligent behavior. Early efforts focused on building intelligent general problem solvers, that is, systems that, like humans, have the ability to solve a multiplicity of problems (Newell & Simon, 1963). This proved to be very difficult and was replaced by attempts to build more modest systems, systems that are modeled on humans reasoning in relatively narrow domains of expertise, for example, in medical diagnostics (Shortliffe, 1976). Initially, the systems studied and developed involved relatively high levels of human expertise, gained as a result of extensive education or training. Hence, they became known as expert systems. The term *knowledge-based systems* evolved to cover all examples of knowledge intense activity, with *expert systems* signifying examples involving relatively high levels of expertise. These systems can serve as assistants, associates, or as a stand-alone system in a given knowledge domain, depending on the type and level of expertise they embody and the confidence users have in their ability for autonomous action. Such computer-based expert systems possess "knowledge" and can "teach" a user of the system about the knowledge and procedures involved in complicated tasks.

EXPERT SYSTEM FEASIBILITY

The basic insight that led to the development of expert systems is that much of what human experts know can be encoded symbolically, for example, as if-then rules. Intelligent systems technology provides the means to represent and store various forms of knowledge electronically, including if-then rules, in a knowledge base. It also provides the means to build an inference engine, a computer program that reasons about the knowledge in a knowledge base. The question to be asked is, Under what circumstances is it feasible to build an expert system? The discussion here focuses on three desiderata: whether the problem domain lends itself to symbolic

representation and reasoning, whether the domain expertise is reasonably available, and whether there is a user community that could and would make good use of the system to be developed. This chapter's authors decided that a significant part of brief therapy decision making could be modeled with a symbolic representation; that brief therapy domain expertise was available, from the experience of one of the authors and print documentation; and that there was a user community that could make good use of the developed system, namely, students, teachers, and practitioners of brief therapy. The initial goal was to build an expert system that could assist this user community in brief therapy instruction and training.

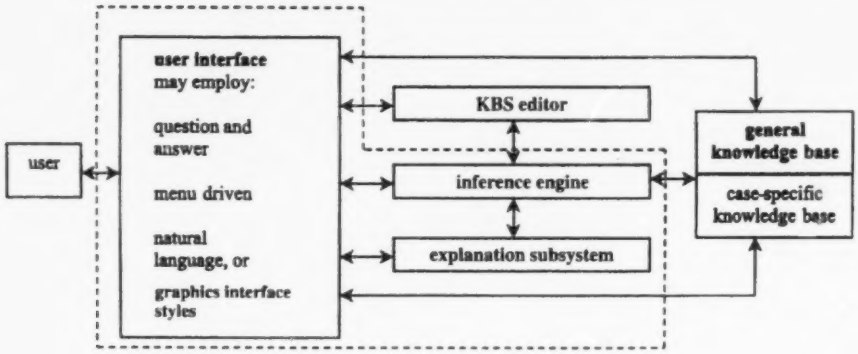
EXPERT SYSTEM DESIGN AND IMPLEMENTATION

Designing and implementing an expert system involves a process known as knowledge engineering, whereby human expertise is converted into cyberexpertise. This is an iterative process that includes (1) acquiring knowledge from domain resources—called knowledge elicitation; (2) representing and engineering the knowledge into a consistent, sound, and relatively complete knowledge base; and (3) designing a friendly, enticing interface that will assist and teach those who do not possess such expertise how to perform as if they did. The expert system becomes a tutor or an assistant to those who lack expertise and increases a user's understanding and performance in the domain.

Figure 18-1 depicts the standard architecture and components of an expert system (Luger & Stubblefield, 1998). The components of particular concern, identified in boldface, are

- **user interface:** The interface may be implemented in numerous ways. This is usually what the user sees on the screen, and it must be easy or (even better) enticing to use. Anything less could discourage use of the system. This is to be avoided at almost any cost.
- **inference engine:** The inference engine provides the reasoning capabilities of an expert system. To insure that correct recommendations result, it must be logically valid, consistent, and complete. To encourage continued use, it should be as efficient as resources permit.

Figure 18-1
System Architecture and Components



- **knowledge base:** The knowledge base contains the knowledge that motivates building the expert system. It is the most important component. To insure that correct recommendations result, the knowledge base must be sound, consistent, and relatively complete for the task at hand.
- **explanation subsystem:** Human domain experts are able to explain domain concepts: why certain information is required to exercise their expertise, and how they arrive at their recommendations and results. The explanation subsystem provides these behaviors for the expert system, should the user need to inquire about a given recommendation.

AN EXPERT SYSTEM DESIGN FOR RESOLUTION COUNSELING

This chapter's authors have collaborated in the development of an intelligent system that serves as an assistant for counselors who are new to solution-focused brief therapy techniques. This program is designed to serve as a computer helper, leading the counselor through the steps of an initial interview. The example in this section illustrates how the counselor, interacting with the computer through a user-friendly interface, can be aided in his or her decision making with clients.

Counseling done well is a highly complex set of behaviors that many say is as much art as science. Obviously, a master counselor is an expert who could have difficulty articulating all the reasons behind these behaviors. This is the bottleneck problem in knowl-

edge engineering. It is important to note at the outset that this is not an attempt to capture all of these behaviors. However, brief approaches to counseling could be thought of as more algorithmic than most other approaches. In this sense, brief counseling lends itself more easily to analysis and the design of an expert system. The objectives of this expert system are to familiarize novice counselors with the typical steps of an initial brief counseling interview and how to select certain interventions, so that they can then practice these steps and techniques in supervised settings while developing their counseling skills.

An Algorithm for Conducting a Resolution Counseling First Session

Users interact with an expert system by responding to a series of suggestions and questions presented by the system's interface. The exact sequence of questions and suggestions vary from session to session, depending on the case-specific knowledge that is provided by a user and the algorithm that is encoded in the system.

The first-session algorithm moves through two phases: Attending and Influencing. (Note that, obviously, all counselor responses are meant to influence the course of the session, but during the Attending phase, influencing attempts are covert deconstructions.) Attending is a continuous process and establishes the invitation. An invitation is when the client asks the counselor to help with the presenting concern. This means that the counselor can move on to Influencing so long as the invitation to help remains current. The purpose of Influencing is to get a workable goal established, and to establish exceptions to the problem or concern that is the focus of the conversation. Any time the client returns to complaining (problem-saturated talk), this means the invitation has been revoked, and the counselor must default to Attending. After returning to acknowledging and deconstructing, and once a new invitation has been given, the counselor may once again move to Influencing.

The Interface—What Is on the Screen

The procedure just outlined is represented in the knowledge base and used to guide a counseling session. In the illustration of the interface that follows, the parenthetical remarks [in brackets]

are information the interface presents to the user, the remarks in "quotes" are information the user provides to the client and the client's responses and the remarks in **boldface** are information the user provides to the expert system. The user interprets and evaluates the client's responses in the process of carrying out a session. They are included here [also in brackets], to make sense of the consultation.

Therapist: [. . . begin work with a positive or neutral opening line . . .] "What brought you here today?"
Client: "I'd like to become more assertive in social situations."
Therapist: [. . . the client responded to your opening remarks by: **stating a workable goal**.]
Therapist: [Request an exception.] "Tell me about a time when you were assertive. . . ."
Client: "Well, last week I stood up for myself in a meeting. . . ."
Therapist: [The client: **named an exception**.]
Therapist: [. . . the exception was amplified; concretized, encouraged, and elaborated; another exception was requested . . .] "Wow! How did you get yourself to do that? . . ."
Client: "I just couldn't take it anymore, so I objected to . . ."
Therapist: [. . . the client: **provided another exception**.]
Therapist: [If a sufficient number of exceptions have been requested and amplified, and two thirds of the session time has elapsed, take a break.]

The Rule Base—What Is in the Computer

This scenario is based on a knowledge base that includes the following rules. The screen display is a result of the inference engine interacting with this rule base. Behind what the user saw on screen, this was happening:

- Rule 1— **IF:** You have welcomed the client and explained how the session will be conducted, and you are ready to continue, begin the work with a *positive* or *neutral* opening remark and select "continue": **continue**
  THEN: The session has started: **yes**
- Rule 2— **IF:** The session has started: **yes**

AND The client responded to your opening remarks by: **stating a *workable goal***
THEN: Analyze the workable goal: yes

- Rule 6— **IF:** Analyze the workable goal: **yes**
AND An *exception* was requested and the client: **named an exception**
AND The exception was amplified; concretized, *encouraged*, and elaborated; another exception was requested, and the client: **provided another exception**
AND A sufficient number of exceptions: **have been requested and amplified**
AND two-thirds of the session time has elapsed, select "take a break" from the alternatives listed below; otherwise, select "continue the session": **take a break**

In this sample rule base, the terms in italic are highlighted on the screen, and they are linked to detailed explanations of the concepts referred to. The user can click on them at any point in a session, if he or she wishes an explanation of the concept. Also, at any point in a session, the user can query the system as to why it is requesting certain information or how it has arrived at a particular recommendation or conclusion.

A web address for the expert system shell used in the creation of this program is included in the Conclusion section of this chapter. A demo of the software may be downloaded so that readers can try developing some if-then rules on their own. It's not that complicated! Simply playing around with the software should make it clear as to how to proceed with a cybercounseling project.

Example: How Influencing Behaviors Are Selected in a Resolution Session

Excerpts from the counselor assistant program will help to develop a more intuitive understanding of a knowledge-based system and its possible contents.

In order to help novice counselors choose among several influencing behaviors, the algorithm begins at the start of a session, with Attending behaviors, and then directs the counselor's moves toward Influencing based on the client response to each counselor move.

Attending

- **Beginning With a Neutral or Positive Opening Line:** (a) Neutral—"What brought you here today?" or "What would you like to talk about?" (b) Positive—"What is it you would like to change in your life?" or "What is your goal in coming here?" [Do not ask: What's the problem?] **If the client complains (talks about the problem), GOTO Acknowledging the Complaint. If the client states a desired outcome for the counseling (a preliminary goal), GOTO Crystalizing a Goal. If a workable goal is established, GOTO Seeking an Exception. If the goal is vague, GOTO Creating a Hypothetical.**
- **Acknowledging the Complaint:** ***Listen*** so that the client believes that you are paying attention, communicate to the client that you ***understand*** what is being said, and attempt to ***validate*** the client's perspective through behaviors that indicate acceptance. [Do not probe for negative feelings.] This is called the LUV Triangle (Presbury, Echterling, & McKee, 1999). **If the first time acknowledging, GOTO Deconstructing the Complaint. If the second time acknowledging, GOTO Scaling the Complaint. If the third time acknowledging, GOTO Asking the Miracle Question. If the fourth time acknowledging, GOTO Externalizing the Concern. If the fifth time acknowledging, GOTO Finding the Pony.**
- **Deconstructing the Complaint:** Creatively misunderstand any terms that are self-deprecating, dead-end, or categorically absolute. Relabel the terms: for example, *depressed* becomes "just haven't been able to get up and go," negative terms such as *bum*, *screw-up*, or *fool* become "the old you." For another example, the client is "in a rut" (versus *a failure*) or "extremely sensitive" (versus *neurotic*) Deconstruct without disconfirming.
- **Waiting to Be Invited:** Do not move from the Attending phase until the client indicates that you are being asked to help (by, for example, a pause and expectant look, a sign of bewilderment, or a request for advice). **If the client escalates the complaint, GOTO Acknowledging the Complaint Without Deconstructing the Complaint. After Acknowledging the Complaint several times, try Deconstructing the Complaint**

again and watch for an invitation. If the client indicates that you have been invited, GOTO Crystalizing a Goal.

Influencing

- **Crystalizing a Goal:** Find out what the client feels will be the most desirable outcome for your work together. If multiple goals are named, prioritize. For the goal to be workable, it must be (1) the desire to have something happen rather than having something go away, (2) concrete, specific, and behavioral rather than vague or fuzzy, (3) centered on change in the client rather than change in a situation or behavior of others, and (4) possible and within the client's control. **If a workable goal is named, GOTO Seeking an Exception. If an unworkable goal is named, GOTO Turning Toward a Workable Goal. If no difference is named, GOTO Creating a Hypothetical. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**
- **Turning Toward a Workable Goal:** Any time the client names as a goal the absence—rather than the presence—of something, changing someone else, or something out of the client's control, ask, "What difference will that make in your life?" or "What will be happening instead?" **If a workable goal is named, GOTO Seeking an Exception. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**
- **Seeking an Exception:** Using presumptive language say, "Tell me about a time when [the desired situation] has happened." **If an exception is not named, but hoped for, GOTO Scaling the Complaint. If the client describes an exception (a time when the complaint is not happening), GOTO Amplifying Success. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**
- **Amplifying Success:** Create an emotional arousal connected with the image of a desired outcome: Get excited, ask for details, amplify the image. Display increased ***energy***, assign ***agency*** to the client for making the event happen—"How did you get yourself to do that?"—and keep the ***imagery*** of the situation going as long as possible by asking what details could be seen on a video-

tape of the desired situation. Ask, for example, "What else?," "Who noticed the difference?," or "Then what happened?" This is the encouragement triad (Presbury, Echterling, & McKee, 1999). **If the client seems ready to move toward a more vivid image of success, GOTO Finding Unnoticed Success. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**

- **Creating a Hypothetical:** When a client says, "I don't know" to your request for a goal statement, ask for a guess: "*If* you did know . . . ," "*If* you did have an idea . . . ," "*If* you could figure it out . . . ," "*If* it weren't beyond you . . . ," "*If* our work together were to be successful, what would be better?" **If the client creates a hypothetical, GOTO Finding Unnoticed Success. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**
- **Scaling the Complaint:** Say the following: "On a scale ranging from 1 to 10, where 1 represents things at their worst and 10 represents how things will be when these problems are resolved, where would you place yourself today?"And then ask something like, "What could be one thing that would let you know that you were on your way to a ___ (the next higher number)?" **If the client names a difference, GOTO Crystalizing a Goal. If the client offers a vague difference, GOTO Finding Unnoticed Success. If the client fails to name a difference, GOTO Creating a Hypothetical. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**
- **Finding Unnoticed Success:** Ask, "What will be the very first sign that things are starting to be on the right track?" (client answers) "What part of that is already happening?" **If the client names something positive, GOTO Amplifying Success. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**
- **Asking the Miracle Question:** Say, "I want to ask you a question that will require you to use your imagination. Suppose that you were to go to bed tonight and have a very deep sleep. And during the night, a miracle happens, and all the concerns we have been talking about simply vanish! When you wake up in the

morning, not realizing that this miracle has happened, what will be the first thing you notice that is different that will tell you that there has been a miracle?" **If the client names a difference, GOTO Crystalizing a Goal. If the client offers a vague difference, GOTO Finding Unnoticed Success. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**

- **Externalizing the Concern:** Talk about the complaint as if it had an identity. Find out how the client has been influenced, dominated, or plagued by the concern (don't use causal statements); find out about times when the client has ignored or controlled the concern. **If client tells of a time when the concern has been ignored or controlled, GOTO Amplifying Success. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**
- **Finding the Pony (the coping inquiry):** Acknowledge the misery, but also look for the positives that occur alongside it. You might say, "Tell me how in the world you are able to cope with this terrible situation!" or "With all these things that have been taking place in your life, I am amazed that you are able to [name an obvious exception]. How do you do that?" Communicate wonder and awe in your tone, and as the client mentions a way of coping, express curiosity and ask for more details. **If the client names a coping attitude or behavior, GOTO Amplifying Success. If the client complains (talks about the problem), GOTO Acknowledging the Complaint.**

CONCLUSION: WHAT WE LEARNED

The brief therapy approach to counseling was born in the post-World-War-II cybernetics movement. The shift from a problem focus to a solution focus altered the way in which counselors approached helping clients out of their inflexible cognitive representations. Alongside this evolution in psychotherapy was the growth of research in artificial intelligence and the early success of expert system programs. Because the resolution counseling approach is systematic, it lends itself to the enterprise of creating an expert system that could serve as a coach or assistant for novice counselors. In attempting to make each counseling step in a first

session precise enough to fit the if-then rules of an expert computer system, this chapter's authors made resolution counseling more explicit and therefore more understandable. As a result of this project, this chapter's authors learned that it was possible to represent brief counseling in a computer for training purposes and that, in doing so, they arrived at a much fuller understanding and a more efficient practice of resolution counseling.

This chapter's authors recommend that counselors who are interested in having greater access to what they are actually doing moment to moment in a counseling session obtain a piece of expert system software and work with a colleague who could serve as a knowledge engineer. Through the knowledge elicitation process, the counselor could make explicit his or her own expertise. The expert system shell this chapter's authors used was EXSYS Professional by Multilogic, Inc. Their address is 2000 Minnesota World Trade Center, 30 East 7th Street, St. Paul, MN 55101-4901. An executable demo of EXSYS can be downloaded from ftp://ftp.exsysinfo.com/pub/demos/.

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